

DEC 18 2006

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Toshihide Kobayashi et al.

Group Art Unit: 1655

Appl. No.

: 10/516,072

(U.S. National Stage of PCT/JP03/06841)

Examiner: Martin

I.A. Filed

: May 30, 2003

Confirmation No.: 9668

For

: CHOLESTEROL DETECTION REAGENT

## INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
U.S. Patent and Trademark Office
Customer Service Window, Mail Stop <u>Amendment</u>
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

In accordance with the duty of disclosure under 37 C.F.R. 1.56, 1.97, and 1.98, Applicants hereby brings the following information to the attention of the Examiner, which includes information cited and discussed in the specification, the International Search Report, and the International Preliminary Examination Report issued in connection with counterpart International Application No. PCT/JP03/06841. Copies of the International Search Report (in English and Japanese), and the International Preliminary Examination Report (in Japanese) were enclosed with the papers when entering the National Stage on November 29, 2004. The Examiner is invited to review these materials to inspect the relevance indicated during international examination with respect to the documents cited therein.

MMIRIO A FEBRUARIA INFERENCIA ENGLANZA EN MIRISTO

- L.F. AMOROSA et al., "The Effects of Polyoxyethylated Cholesterol Feeding on Hepatic Cholesterol Synthesis and Intestinal Cholesterol Absorption in Rats", Atherosclerosis, Vol. 64, pp. 117-123 (1987);
- 2) Hideki ISHIWATA et al., "Physical-Chemistry Characteristics and Biodistribution of Poly(ethylene glycol)-Coated Liposomes Using Poly(oxyethylene) Cholesteryl Ether", Chem. Pharm. Bull., Vol. 43, No. 6, pp1005-1011 (1995);
- 3) JP 8-131197, accompanied by an English language abstract, and English language family member U.S. Patent No. 5,691,159;
- 4) Mark S. BRETSCHER et al., "Cholesterol and the Golgi Apparatus", Science, Vol. 261, pp. 1280-1281 (1993), which is cited in the specification beginning on page 1, second paragraph;
- 5) Anton RIETVELD et al., "The Differential Miscibility of Lipids as the Basis for the Formation of Functional Membrane Rafts", Biochimica et Biophysica Acta, Vol. 1376, pp. 467-479 (1998), which is cited in the specification beginning on page 1, second paragraph;
- 6) Rhoderick E. BROWN et al., "Sphingolipid Organization in Biomembranes: What Physical Studies of Model Membranes Reveal", Journal of Cell Science, Vol. 111, pp. 1-9 (1998), which is cited in the specification beginning on page 1, second paragraph;
- 7) Teymuras V. KURZCHALIA et al., "Membrane Microdomains and Caveolae", Curr. Opin. Cell. Biol., Vol. 11, pp. 424-431 (1999), which is cited in the specification beginning on page 1, second paragraph;

- 8) Elina IKONEN et al., "Caveolins and Cellular Cholesterol Balance", Traffic, Vol.1, pp. 212-217 (2000), which is cited in the specification beginning on page 1, second paragraph;
- 9) D.A. BROWN et al., "Functions of Lipid Rafts in Biological Membranes", Annu. Rev. Cell Dev. Biol., Vol. 14, pp. 111-136 (1998), which is cited in the specification beginning on page 1, second paragraph;
- 10) Kai SIMONS et al., "Lipid Rafts and Signal Transduction", Nature Reviews: Molecular Cell Biology", Vol. 1, pp. 31-41 (2000), which is cited in the specification beginning on page 1, second paragraph;
- 11) Linda J. PIKE et al., "Cholesterol Depletion Delocalizes Phosphatidylinositol Bisphosphate and Inhibits Hormone-Stimulated Phosphatidylinositol Turnover", The Journal of Biological Chemistry, Vol. 273, No. 35, pp. 22298-22304 (1998), which is cited in the specification beginning on page 1, second paragraph;
- 12) PRALLE et al., "Sphingolipid-Cholesterol Rafts Diffuse as Small Entities in the Plasma Membrane of Mammalian Cells", The Journal of Cell Biology, Vol. 148, No. 5, pp. 997-1007 (2000), which is cited in the specification beginning on page 1, second paragraph;
- 13) Katja RÖPER et al., "Retention of Prominin in Microvilli Reveals Distinct Cholesterol-Based Lipid Microdomains in the Apical Plasma Membrane", Nature Cell Biology, Vol. 2, pp. 582-592 (2000), which is cited in the specification beginning on page 1, second paragraph;
- 14) Michael S. BROWN et al., "A Proteolytic Pathway that Controls the Cholesterol Content of Membranes, Cells, and Blood", Proc. Natl. Acad. Sci. USA, Vol. 96,

- pp. 11041-11048 (1999), which is cited in the specification beginning on page 2, line 2;
- 15) Kai SIMONS et al., "How Cells Handle Cholesterol", Science, Vol. 290, pp. 1721-1726 (2000), which is cited in the specification beginning on page 2, line 2;
- 16) Yiannis A. IOANNOU, "Multidrug Permeases and Subcellular Cholesterol Transport", Nature Reviews: Molecular Cell Biology, Vol. 2, pp. 657-668 (2001), which is cited in the specification beginning on page 2, line 3;
- 17) Peter G. PENTCHEV et al., "The Niemann-Pick C Lesion and its Relationship to the Intracellular Distribution and Utilization of LDL Cholesterol", Biochimica et Biophysica Acta, Vol. 1225, pp. 235-243 (1994), which is cited in the specification beginning on page 2, line 5;
- 18) Laura LISCUM, "Niemann-Pick Type C Mutations Cause Lipid Traffic Jam", Traffic, Vol. 1, pp. 218-225 (2000), which is cited in the specification beginning on page 2, line 6;
- 19) Toshihide KOBAYASHI et al., "Late Endosomal Membranes Rich in Lysobisphosphatidic Acid Regulate Cholesterol Transport", Nature Cell Biology, Vol. 1, pp. 113-118 (1999), which is cited in the specification beginning on page 2, line 8;
- 20) Hideki ISHIWATA et al., "Cholesterol Derivative of Poly(ethylene glycol)
  Inhibits Clathrin-Independent, but not Clathrin-Dependent Endocytosis",
  Biochimica et Biophysica Acta, Vol. 1359, pp. 123-135 (1997), which is cited in
  the specification beginning on page 2, first full paragraph; and

21) Takeshi BABA et al., "Clathrin-Dependent and Clathrin-Independent Endocytosis are Differently Sensitive to Insertion of Poly (Ethylene Glycol)-Derivatized Cholesterol in the Plasma Membrane", Traffic, Vol. 2, pp. 501-512 (2001), which is cited in the specification beginning on page 2, first full paragraph.

In accordance with 37 C.F.R 1.98, a copy of the U.S. Patent is not enclosed herewith. Moreover, Applicants note that copies of the documents cited in the International Search Report should have been forwarded by the International Bureau. Therefore, copies of all of these documents are not being submitted herewith. The Examiner is accordingly requested to consider each of these documents, and to make them of record in this application by initialing in the appropriate spaces on the attached Form-1449. Applicants respectfully request that the Examiner include a copy of the initialed Form PTO-1449 with the next communication from the U.S. Patent and Trademark Office. If the Examiner needs copies of any of the documents, the Examiner is requested to contact the undersigned.

Copies of the above-noted documents, except for the U.S. patent, items 1, 2, and 20 (cited in the International Search Report), are enclosed together with a duly completed Form PTO-1449. The Examiner is accordingly requested to consider each of these documents, and to make them of record in this application by initialing in the appropriate spaces on the Form PTO-1449. Applicants respectfully request that the Examiner include a copy of the initialed Form PTO-1449 with the next communication from the U.S. Patent and Trademark Office.

Applicants note that this disclosure statement is being filed after first action on the merits, but prior to issuance of an office action closing prosecution. Therefore, payment

in the amount of \$180.00 is submitted herewith. However, if the fee is deficient and/or if any additional fee is required for consideration of this disclosure statement, including any fee under 37 C.F.R. 1.17(p), Applicants hereby authorize that any required fee be charged to Deposit Account No. 19-0089.

Should there be any questions, the Examiner is invited to contact the undersigned at the below listed telephone number.

Respectfully Submitted Voshihae Kobayashi et

Bruce/H. Bernstein Reg. No. 29,027

Arnold Turk Reg. No. 33094

December 18, 2006 GREENBLUM & BERNSTEIN, P.L.C. 1950 Roland Clarke Place Reston, VA 20191 (703) 716-1191

Sheet 1 of 2

FORM PTO-1449 '

## O.S. Department of Commerce Patent and Trademark Office

INFORMATION DISCLOSURE STATEMENT

BY APPLICANT (Use several sheets if necessary)

Atty. Docket P26337

Application No. 10/516,072

Applicant

Toshihide Kobayashi et al.

Filing Date May 30, 2003

Group 1655



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	1	L.F. AMOROSA et al., "The Intestinal Cholesterol Absorption	n in Rats", Ath	erosclerosis	s, Vol. 64, pp.	117-123 (198	37).			
	2	Hideki ISHIWATA et al., "Pl Liposomes Using Poly(oxyethyl	hysical-Chemis lene) Cholester	stry Charac yl Ether", C	teristics and Chem. Pharm.	Biodistribution Bull., Vol. 43	on of Po , No. 6,	oly(ethyle pp1005-1	ene glycol)-Coated 011 (1995).	
	3	Hideki ISHIWATA et al., "Pl Liposomes Using Poly(oxyethyl	hysical-Chemis lene) Cholester	stry Charac yl Ether", C	teristics and them. Pharm.	Biodistribution Bull., Vol. 43	on of Po 8, No. 6,	oly(ethyle pp1005-1	ene glycol)-Coated 011 (1995);	
	4	Mark S. BRETSCHER et al., "C	Cholesterol and	the Golgi A	Apparatus", So	cience, Vol. 2	61, pp. 1	280-1281	(1993).	
	5	Anton RIETVELD et al., "T Membrane Rafts", Biochimic	he Differentia	al Miscibil ica Acta, V	ity of Lipids /ol. 1376, pp	s as the Basis o. 467-479 (1	s for the 1998).	Format	ion of Functional	
	6	Rhoderick E. BROWN et al., "Sphingolipid Organization in Biomembranes: What Physical Studies of Mode Membranes Reveal", Journal of Cell Science, Vol. 111, pp. 1-9 (1998).  Teymuras V. KURZCHALIA et al., "Membrane Microdomains and Caveolae", Curr. Opin. Cell. Biol., Vol. 11, pp. 424-431 (1999).								
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8 Elina IKONEN et al., "Caveolins and Cellular Cholesterol Balance", Traffic, Vol. 1, p								pp. 212	-217 (2000).	
	9	D.A. BROWN et al., "Funct 14, pp. 111-136 (1998).	ions of Lipid	Rafts in E	Biological M	embranes",	Annu. I	Rev. Cel	l Dev. Biol., Vol.	
	10	Kai SIMONS et al., "Lipid 1, pp. 31-41 (2000).	Rafts and Sig	nal Transo	luction", Na	ture Review	s: Mole	cular Ce	ell Biology", Vol.	
	11	Linda J. PIKE et al., "Cho Hormone-Stimulated Phosph pp. 22298-22304 (1998).	olesterol Depl natidylinositol	letion Del Turnover	ocalizes Pho ", The Journ	osphatidyling al of Biolog	ositol B ical Che	Bisphospl emistry,	hate and Inhibits Vol. 273, No. 35,	
	12	PRALLE et al., "Sphingoli Mammalian Cells", The Jour	pid-Cholester mal of Cell B	rol Rafts iology, Vo	Diffuse as 1. 148, No. 5	Small Entiti 5, pp. 997-10	es in the 1007 (200	he Plasn 00).	na Membrane of	
	13	Katja RÖPER et al., "Retention of Prominin in Microvilli Reveals Distinct Cholesterol-Based Lipid Microdomains in the Apical Plasma Membrane", Nature Cell Biology, Vol. 2, pp. 582-592 (2000).								
	14	Michael S. BROWN et al., "A Proteolytic Pathway that Controls the Cholesterol Content of Membranes, Cells, and Blood", Proc. Natl. Acad. Sci. USA, Vol. 96 pp. 11041-11048 (1999).								
	15	Kai SIMONS et al., "How C	ells Handle C	holesterol	", Science, \	Vol. 290, pp.	1721-1	726 (200	00).	
	16	Yiannis A. IOANNOU, "M Molecular Cell Biology, Vol				ar Cholester	rol Trai	nsport",	Nature Reviews:	
	17	Peter G. PENTCHEV et Distribution and Utilization (1994)	al., "The Ni of LDL Cho	emann-Pio lesterol",	ck C Lesio Biochimica	n and its I et Biophysi	Relation ca Acta	ship to ı, Vol. 1	the Intracellular 225, pp. 235-243	
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\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered.

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**FORM PTO-1449** 

## U.S. Department of Commerce Patent and Trademark Office

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Applicant

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	18	Laura LISCUM, "Niemann (2000)	-Pick Type C	Mutations Cause Lip	oid Traffic Jar	m", Traffic, Vo	l. 1, pp. 218 <b>-</b> 2	25		
	19	Toshihide KOBAYASHI et al., "Late Endosomal Membranes Rich in Lysobisphosphatidic Acid Regulate Cholesterol Transport", Nature Cell Biology, Vol. 1, pp. 113-118 (1999).								
	20	Takeshi BABA et al., "Clath Insertion of Poly (Ethylene 501-512 (2001).	rin-Dependent Glycol)-Deri	t and Clathrin-Indeper vatized Cholesterol ir	ndent Endocythic the Plasma	tosis are Differe Membrane", Tr	ently Sensitive affic, Vol. 2, p	to pp.		
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